

**CLAIMS**

1. A method to provide an automatic gain control (AGC) in a receiver structure, comprising the following steps: multiplying a received analogue signal with a predetermined gain setting to obtain an amplifier output signal, sampling the amplifier output signal, estimating the energy in the samples, calculating the average energy,  
10 **characterised in that** the method further comprises the steps of:

- computing the percentage of clipped samples,
- calculating the target energy value, based on the average energy and the percentage of clipped samples,  
15 and the gain setting,
- applying the updated receiver gain setting.

2. A method, according to claim 1, to provide an automatic gain control (AGC) in a receiver structure, wherein a lower and upper limit are set for the target energy value and the target energy value is  
20 calculated as follows:

- if clipping percentage is below the lower limit, the target energy value is increased,
- if clipping percentage is between lower and upper  
25 limit the target energy remains unchanged,
- if clipping percentage is above the upper limit the target energy value is decreased.

3. An automatic gain control apparatus to control received RF power, comprising an adjustable gain amplifier (1) arranged for amplifying a received signal, an  
30 A/D converter (2) arranged for generating samples of the amplified signal, a clipping & energy estimation block

(3'), arranged for the calculation of the clipping percentage and the average energy of the sampled signal and a gain calculation block (4'), arranged for determining the target energy value and the gain setting of said adjustable  
5 gain amplifier.

4. The AGC apparatus of claim 3 incorporated in a receiver apparatus.

5. An integrated circuit device or a set of integrated circuit devices, comprising an automatic gain  
10 control apparatus as in claim 3.